UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/392,434	09/09/1999	LARRY L. BRADFORD	ACA6124PDUS	1107

7590 06/28/2004

RICHARD P FENNELLY
AKZO NOBEL INC
INTELLECTURAL PROPERTY DEPARTMENT
7 LIVINGSTONE AVENUE
DOBBS FERRY, NY 105223408

EXAMINER	
SERGENT, RABON A	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/392,434
Filing Date: September 09, 1999
Appellant(s): BRADFORD ET AL.

Richard P. Fennelly
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 4, 2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellants' statement of the status of amendments after final rejection contained in the brief is substantially correct. Two amendments after final have been filed. The first amendment after final, filed December 23, 2003, was not entered due to non-compliance with 37 CFR 1.121. The second amendment after final, filed March 2, 2004, has been entered. As a result of the entry of the second amendment after final, the rejection of claims 1-3, 5-11, 13, and 14 under 35 U.S.C. 112, second paragraph has been withdrawn. The prior art rejections have been maintained for the reasons set forth within the final Office action of December 3, 2003 and the Advisory action of February 17, 2004.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellants' statement of the issues in the brief is substantially correct. The changes are as follows:

Issue 1: Whether claims 1-3, 5, 6, and 9-11 have been properly rejected under 35 U.S.C. 103(a) as being unpatentable over Fearing ('534 or '633) in view of Keppeler et al. ('612).

Issue 2: Whether claims 1-3, 5-7, 9-11, and 13 have been properly rejected under 35 U.S.C. 103(a) as being unpatentable over Sicken et al. ('965) in view of Keppeler et al. ('612).

Issue 3: Whether claims 7, 8, 13, and 14 have been properly rejected under 35 U.S.C. 103(a) as being unpatentable over Sicken et al. ('965) in view of Keppeler et al. ('612), as applied to claims 1-3, 5-7, 9-11, and 13, and further in view of Hardy et al. ('035 or '042).

(7) Grouping of Claims

Appellants' brief includes a statement that claims 1-3, 5-7, 9-11, and 13 stand or fall separately from claims 7, (8), 13, and 14 in view of the separate grounds of rejection set forth. Appellants' statement is considered to comply with the requirements set forth within 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of appealed claims 2, 3, 5-8, and 10-14 contained in the Appendix to the brief is correct.

A substantially correct copy of appealed claims 1 and 9 appears on pages 8 and 9 of the Appendix to the appellants' brief. The minor errors are as follows: Within line 5 of claim 1 and line 6 of claim 9, the word, "organophosphorus", should be "organophosphate". Within line 7 of claim 1 and line 8 of claim 9, the word, "about", should be present immediately after the language, "no more than", so that the claimed hydroxyl number is "no more than about 30 mg KOH/g".

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

U. S. 4,199,534	Fearing	April 22, 1980
U. S. 4,268,633	Fearing	May 19, 1981
U. S. 4,382,042	Hardy et al.	May 3, 1983
U. S. 4,458,035	Hardy et al.	July 3, 1984
U. S. 5,981,612	Keppeler et al.	November 9, 1999
U. S. 5,985,965	Sicken et al.	November 16, 1999

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5, 6, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fearing ('534 or '633) in view of Keppeler et al. ('612).

Fearing discloses the use of oligomeric organophosphorus flame retardants within polyurethane foams and further discloses that the oligomeric flame retardants may be blended with additional flame retardants. See column 8, lines 27-34 within the Fearing references. Fearing further discloses that the oligomeric organophosphorus compounds have hydroxyl numbers of 1 to 50. See column 8, lines 5-15. The oligomeric organophosphorus compounds of Fearing contain phosphate groups; therefore, it is proper to refer to the compounds as organophosphates.

Though Fearing discloses that additional flame retarding agents may be used, the primary references fail to recite specific examples. However, non-halogenated phosphate ester compounds were widely known flame retardants for polyurethane foams at the time of invention. This position is supported by the teachings of numerous such flame retardants within Keppeler et al. at column 7, line 33 through column 8, line 67.

Therefore, the position is taken that it would have been *prima facie* obvious to select a non-halogenated phosphate ester flame retardant from the numerous flame retardants of Keppeler et al. and employ said flame retardant as a component of the aforementioned, disclosed flame retardant blend of the primary references.

Appellants' argument that the secondary reference provides a list of flame retardants so long that it provides no teaching to make a specific choice is not adequate to remove the art rejection. The primary references teach that mixtures comprising an oligomeric organophosphorus flame retardant and another flame retardant may be used as polyurethane foam flame retardants, and the secondary reference provides a teaching of polyurethane foam flame retardants. Appellants' component (a) flame retardants are disclosed within the secondary reference. The position is maintained that it would have been obvious to select any flame retardant from the list of the secondary reference. The burden rests with appellants to rebut the *prima facie* case of obviousness by such means as a showing of unexpected results, for example. In the absence of such evidence and in consideration of the combined teachings of the references, the position is ultimately taken that the evidence of obviousness outweighs the evidence of nonobviousness.

Claims 1-3, 5-7, 9-11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sicken et al. ('965) in view of Keppeler et al. ('612).

Sicken et al disclose the use of oligomeric phosphate flame retardants within polyurethane foams and further disclose that the oligomeric flame retardants may be blended with additional flame retardants. See column 4, line 32 within Sicken et al. Sicken et al. further

disclose at column 4, line 41 that the oligomeric phosphate, corresponding to disclosed formula I, has a hydroxyl number of 30 to 300 mg KOH/g. It is noted that the lower end of this range clearly meets appellants' "no more than about 30 mg KOH/g" claim limitation.

Though Sicken et al. disclose that additional flame retarding agents may be used, the primary reference fails to recite specific examples. However, non-halogenated phosphate ester compounds were widely known flame retardants for polyurethane foams at the time of invention. This position is supported by the teachings of numerous such flame retardants within Keppeler et al. at column 7, line 33 through column 8, line 67.

Therefore, the position is taken that it would have been *prima facie* obvious to select a non-halogenated phosphate ester flame retardant from the numerous flame retardants of Keppeler et al. and employ said flame retardant as a component of the aforementioned, disclosed flame retardant blend of the primary reference.

Appellants' arguments have been considered; however, they are insufficient to overcome the prior art rejection. Firstly, appellants' argument that Sicken et al.'s hydroxyl number range of 30 to 300 mg KOH/g teaches away from appellants' claimed hydroxyl number of "no more than about 30 mg KOH/g" is not well-taken, since Sicken et al.'s range clearly encompasses the instantly claimed value. Secondly, appellants' argument that the secondary reference provides a list of flame retardants so long that it provides no teaching to make a specific choice is not adequate to remove the art rejection. The primary reference teaches that mixtures comprising an oligomeric phosphate flame retardant and another flame retardant may be used as polyurethane foam flame retardants, and the secondary reference provides a teaching of polyurethane foam

flame retardants. Appellants' component (a) flame retardants are disclosed within the secondary reference. The position is maintained that it would have been obvious to select any flame retardant from the list of the secondary reference. The burden rests with appellants to rebut the *prima facie* case of obviousness by such means as a showing of unexpected results, for example. In the absence of such evidence and in consideration of the combined teachings of the references, the position is ultimately taken that the evidence of obviousness outweighs the evidence of nonobviousness.

Claims 7, 8, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sicken et al. ('965) in view of Keppeler et al. ('612), as applied to claims 1-3, 5-7, 9-11, and 13 above, and further in view of Hardy et al. ('035 or '042).

As aforementioned, the combined teachings of Sicken et al. and Keppeler et al. are considered to render obvious the use of a combination of oligomeric phosphate and non-oligomeric phosphate as a flame retardant blend for polyurethane foam; however, the non-hydroxyl group bearing oligomeric species of instant claims 7, 8, 13, and 14 are not disclosed by the primary reference. Still, the claimed non-hydroxyl group bearing oligomeric species were known flame retardants for polyurethane foams at the time of invention, as evidenced by Hardy et al. The position is taken that the oligomeric species of Hardy et al. are close enough in structure and function to those of the primary reference that one would have expected them to function, in accordance with the teachings of the primary reference, as viable oligomeric phosphate flame retardant components of flame retardant blends; therefore, the position is further taken that it would have been obvious to utilize the flame retardants of Hardy et al. in

combination with the aforementioned non-oligomeric phosphate flame retardants of Keppeler et al., so as to arrive at the instant invention.

Appellants' argument that Sicken et al. denigrate the teachings of Hardy et al. has been considered; however, the position is taken that one faced with the totality of teachings of the primary reference and the secondary references would have found it obvious to employ mixtures of the respective flame retardants. Upon reading the argued passage within Sicken et al, one may have considered the oligomeric flame retardants of Hardy et al. to be less effective than the oligomeric flame retardants of Sicken et al. under certain conditions; however, one unconcerned with the hydroxy group characteristic of Sicken et al. still would have expected that mixtures of the respective flame retardants could be used, given the totality of the record.

(11) Response to Argument

Appellants' arguments have been addressed within the ***Grounds of Rejection***.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

RABON SERGENT
PRIMARY EXAMINER

R. Sergent
June 24, 2004

Conferees:

Supervisory Patent Examiner James Seidleck

Supervisory Patent Examiner David Wu

Richard P. Fennelly
Akzo Nobel Inc.
Intellectual Property Department
7 Livingstone Avenue
Dobbs Ferry, NY 10522-3408